

Purchase Order Receipt Listing

Wednesday, May 20, 2015 10:09:07 AM

All amounts are calculated in domestic currency.

All Vendors PO ID PO28462 Receipt Dates from 5/20/2015 to 5/20/2015 All Line Item Types
All Item ID/GL/WOs All Rec. Employees All Currencies
Grouped by Vendor ID

Purchase Order ID/ Curr Type	Line Nbr/ Insp Req	Project ID	Reference/ Description/ Cert Std	PO U/M / Stock U/M	Required Date Required Qty	Rev Date/ Rev Emp	Rev Qty (PO U/M)	Cost Per Unit/ Rev Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
Vendor ID/Vendor Name VC-COP001 Thyssenkrupp Materials CA Ltd											
PO28462	1		M174R0.750	f	5/20/2015	5/20/2015	13.1200	\$3.73	0.0000	0	\$48.94
CAD	No		17-4 round bar .750	f	14.0000	DCUSER		\$48.94	0.0000	0	
			m132320								
	3		M304R0.375	f	5/20/2015	5/20/2015	12.0000	\$2.42	0.0000	0	\$29.01
	No		304 ROUND BAR	f	12.0000	DCUSER		\$29.01	0.0000	0	
			0.375								
			m132320								
	4		M304R1.000	f	5/20/2015	5/20/2015	12.0000	\$5.20	0.0000	0	\$62.37
	No		304 round bar 1.00	f	12.0000	DCUSER		\$62.37	0.0000	0	
			m132320								
	5		M304S26GA	sf	5/20/2015	5/20/2015	64.0000	\$2.10	0.0000	0	\$134.08
	No		304/316 0.018	sf	64.0000	DCUSER		\$134.08	0.0000	0	
			SHEET								
			m132320								
	6		M303R0.500	f	5/20/2015	5/20/2015	24.0000	\$1.16	0.0000	0	\$27.85
	No		303 Round Bar	f	24.0000	DCUSER		\$27.85	0.0000	0	
			0.500"								
			m132320								
	7		M303R1.000	f	5/20/2015	5/20/2015	36.0000	\$4.53	0.0000	0	\$163.13
	No		303 Round Bar 1.00	f	36.0000	DCUSER		\$163.13	0.0000	0	
			m132320								
	8		M6061T6B0.750X01.f	f	5/20/2015	5/20/2015	12.0000	\$1.90	0.0000	0	\$22.80
	No		000								
			6061-T6 Bar .750 x	f	12.0000	DCUSER		\$22.80	0.0000	0	
			1.00								
			m132320								
	9		M6061T6B2.000X04.f	f	5/20/2015	5/20/2015	6.0000	\$22.99	0.0000	0	\$137.93
	No		500								
			6061T6 Bar 2.00 x	f	6.0000	DCUSER		\$137.93	0.0000	0	
			4.500								
			m132320								

Purchase Order ID/ Curr Type	Line Nbr/ Insp Req	Project ID	Reference/ Description/ Cert Std	PO U/M / Stock U/M	Required Date Required Qty	Recv Date/ Recv Emp	Recv Qty (PO U/M)	Cost Per Unit/ Recv Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
Vendor/ID/Vendor Name VC-COP001 Thyssenkrupp Materials CA Ltd											
PO28462	10		M6061T6B2.500X03. f 500		5/20/2015	5/20/2015	8.0000	\$22.90	0.0000	0	\$183.19
CAD	No		6061-T6 Bar 2.50 x f 3.50 m132320		8.0000	DCUSER		\$183.19	0.0000	0	
	11		M6061T6R0.500 f 6061-T6 Round Bar .500" m132320	✓	5/20/2015	5/20/2015	12.0000	\$2.42 \$29.01	0.0000 0.0000	0 0	\$29.01
	12		M6061T6R1.000 f ROUND BAR 1.00" m132320	✓	5/20/2015	5/20/2015	12.0000	\$2.42 \$29.01	0.0000 0.0000	0 0	\$29.01
	13		M303B1.000X1.000 f 303 BAR 1" X 1" f m132320	✓	5/20/2015	5/20/2015	12.0000	\$10.48 \$125.74	0.0000 0.0000	0 0	\$125.74
	14		71401-45 PROCUREMENT QUALITY CLAUSES m132320		5/20/2015	5/20/2015	1.0000	\$0.00 \$0.00	0.0000 0.0000	0 0	\$0.00
Total Received Quantity:											224.1200
Total Qty to Inspect (PO U/M):											0.0000
Total Reject Quantity:											0.0000
Total Receipt Value:											\$993.05
Total Balance Due Quantity:											0.8800

BILL OF LADING

Ship From:
 THYSSENKRUPP MATERIALS NA
 2821 LANGSTAFF ROAD
 CONCORD, ONTARIO L4K 5C6
 Tel: 905 669 9444 Fax: 905-738-9033

No: PEC 934603
 Ship Date 15 May 15 at 10:27 From PFW
 Probill
 Via VIM DELIVERY
 FOB CONCORD
 Frt PREPAID
 Route 0- 0 Manifest
 Vhcle Trailer
 Slp STAN IVERS (905-532-1350)
 Sold To: (20115)
 DART AEROSPACE
 1270 ABERDEEN ST
 HAWKESBURY, ON K6A 1K7

Ship To: (1)
 DART AEROSPACE
 1270 ABERDEEN ST
 HAWKESBURY, ON K6A 1K7
 Tel: 613-632-9577 Fax: 613-632-1053

BILL OF LADING

1) Our Order PEC-803866- 1 Your PO # 28462

ALUMINUM FLAT BAR 6061-T6511

2.00" x 4.50" X 72.0000"

Heat Number
 HK628-163

Tag No
 413672

Quantity
 6 FT

PCS
 1

Wt LBS
 63

TOTAL: Tags 1 PCS 1 LBS 63

Heat Number
 HK628-163

*** Chemical Analysis ***

ADD ON TO 803853 SUR-CHARGE ADDED

MILL TEST REPORTS, PACKING SLIPS ARE TO SENT
 WITH MATERIAL AND FAXED TO THE CUSTOMER PRIOR
 TO SHIPPING.

ATTN: CHANTAL/LINDA

** ALL PACKING SLIPS MUST HAVE THE HEAT NUMBER **
 ** REFERENCED ON IT **

TOTAL 1 PKG GW. 63 LBS

*CUSTOMER PICK-UP HRS AT THYSSENKRUPP MATERIALS NA
 CONCORD, ONT.* *** 9:00 AM TO 4:00 PM ***

**** TEL. 800-926-2600 ****

Page: 1Continued

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ETRE
 RAPPORTÉES IMMÉDIATEMENT.

ERRORS OR SHORTAGE MUST BE REPORTED IMMEDIATELY

RETOUR DE MARCHANDISES AVEC NOTRE NUMERO D'APPROBATION SEULEMENT.
 MERCHANDISE MAY NOT BE RETURNED WITHOUT OUR APPROVAL NUMBER.

REÇU EN BONNE CONDITIONS / RECEIVED IN GOOD CONDITION
 TVQ/QST# 1017327981 TQ001 TPS/GST TVH/HST # 140223934 RT0001

DATE

B I L L O F L A D I N G

No: PEC 934603

Ship From:
 THYSSENKRUPP MATERIALS NA
 2821 LANGSTAFF ROAD
 CONCORD, ONTARIO L4K 5C6
 Tel: 905 669 9444 Fax: 905-738-9033

Ship Date 15May15 at 10:27 From PFW
 Probill
 Via VIM DELIVERY
 FOB CONCORD
 Frt PREPAID
 Route 0- 0 Manifest
 Vhcle Trailer
 Slp STAN IVERS (905-532-1350)
 Sold To: (20115)
 DART AEROSPACE

Ship To: (1)
 DART AEROSPACE

B I L L O F L A D I N G

* WE STOCK STAINLESS STEEL *
 * PLEASE LET US QUOTE YOUR NEXT REQUIREMENT *

 ***PLEASE NOTE A \$25.00 ENERGY SURCHARGE WILL BE
 ADDED TO EVERY ORDER.***

Page: 2 Last

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ÊTRE
 RAPPORTÉES IMMÉDIATEMENT.

ERRORS OR SHORTAGE MUST BE REPORTED IMMEDIATELY

RETOUR DE MARCHANDISES AVEC NOTRE NUMERO D'APPROBATION SEULEMENT.
 MERCHANDISE MAY NOT BE RETURNED WITHOUT OUR APPROVAL NUMBER.

REÇU EN BONNE CONDITIONS / RECEIVED IN GOOD CONDITION
 TVQ/QST# 1017327981 TQ001 TPS/GST TVH/HST # 140223934 RT0001

DATE

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

ALUMINUM FLAT BAR 6061-T6511
2.00" x 4.50" X 72.0000"
PART NO.

PO/Ref 28462

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Certificate of Mill Test Results

BL PEC-934603-001

15May15

Signed by: *[Signature]*

Pg 1/1

KAISER
ALUMINUM
FABRICATED PRODUCTS

Best in Class

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
5205 KAISER DRIVE
KALAMAZOO, MI 49048

CUSTOMER PO NUMBER:

PEC-257860-2

CUSTOMER PART NUMBER:

SCRB 2.000X4.500/61

PRODUCT DESCRIPTION:

2.000 X 4.500 SC RECT BAR

KAISER ORDER NUMBER:

665525

LINE ITEM:

002

SHIP DATE:

05/16/2014

KAISER LOT NUMBER:

HK628-163

ALLOY:

6061

TEMPER:

T6511

WEIGHT SHIPPED:

1651.000 LB

QUANTITY:

13.000 PCS

B/L NUMBER:

609022

DIAM/DAF/THKNS:

WIDTH:

LENGTH:

12.000 FT

SHIP TO:

THYSSENKRUPP CANADA
2821 LANGSTAFF ROAD
CONCORD, ON L4K 5C6 CANADA

SOLD TO:

THYSSENKRUPP CANADA
2821 LANGSTAFF ROAD
CONCORD, ON L4K 5C6 CANADA

Actual Physical Properties

REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG%	HARDNESS	CONDUCT.	BEND
HK628-163	0001	0001	50.8	47.1	19.3	RE 96	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.20	0.00	NA	NA	NA	0.00	0.00
A35002	.69	.29	.24	.07	.99	.08	.02	.02	.01	.00	.00	.01	.03

Applicable Requirements:

ASTM-B221-13 STENCILED ASME-SB221 1998 SECT II AMS-QQ-A-200/E 97 (REAF 2012) UNS#A96061
(T6511 also conforms to T6-not applicable to other tempers)

Jms 5-24

Miscellaneous Notes

MANUFACTURED IN USA (COMMERCE,CA) MELTED IN USA
MERCURY IS NOT A NORMAL BACKGROUND ELEMENT IN ALUMINUM ALLOYS. NEITHER MERCURY NOR ANY OF ITS COMPOUNDS ARE UTILIZED BY KAISER ALUMINUM IN THE MANUFACTURE OF THIS MATERIAL.

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms and conditions of sale. Test reports are on file, subject to examination.

Aimee L. Macrowski, Quality & Technology Manager

Aimee L. Macrowski

Plant Serial: 00135540

Kaiser Order Number: 665525

Line Item: 002



ThyssenKrupp Matériaux NA

4700, chemin du Bois-Franc
Saint-Laurent, Québec H4S 1A7
Tél.: 514-337-0161 Télécopier: 514-745-2968

CERTIFICAT DE CONFORMITÉ POUR MATÉRIEL EXPÉDIÉ CONFORMANCE CERTIFICATE FOR MATERIAL SHIPPED

Date: **19 MAI 2015**

Compagnie:
Company: **DART AEROSPACE**

ThyssenKrupp Materials NA certifie que le matériel décrit ci-bas s'accorde aux dessins ou spécifications demandés sur le bon de commande et qui sont en vigueur à la date ou la commande est acceptée.

ThyssenKrupp Materials NA certified that the material described below is in accordance with the drawings or specifications called for on said order that are current on the date order was accepted.

Votre no de commande : **28462**
Your order no :

Date expédié: **20 MAI 2015**
Date shipped:

Notre no de commande: **803866**
Our order no.:

Description	Qté./Qty..	Poids/Weight	Specification:
ALUMINIUM FLAT BAR 6061-T6511	1 PC	63 LBS	ASTM B221-13
2.00" X 4.50" X 72.0000"			
AS PER KAISER LOT# HK628-163			

ThyssenKrupp Materials NA - Piera Andreacchio

B I L L O F L A D I N G

No: PEC 934444

Ship From:
THYSSENKRUPP MATERIALS NA
2821 LANGSTAFF ROAD
CONCORD, ONTARIO L4K 5C6
Tel: 905 669 9444 Fax: 905-738-9033

Ship Date 15May15 at 14:00 From PFW
Probill
Via VIM DELIVERY
FOB CONCORD
Frt PREPAID
Route 0- 0 Manifest
Vhcle Trailer
Slp STAN IVERS (905-532-1350)
Sold To: (20115)
DART AEROSPACE
1270 ABERDEEN ST
HAWKESBURY, ON K6A 1K7

Ship To: (1)
DART AEROSPACE
1270 ABERDEEN ST
HAWKESBURY, ON K6A 1K7
Tel: 613-632-9577 Fax: 613-632-1053

B I L L O F L A D I N G

1) Our Order PEC-803853- 1 Your PO # 28462
Part # RANDOM LENGTHS ** STOCK Rel #
STAINLESS STEEL ROUND BAR 17-4 STAINLESS
.750" DIA X 167.5000"

Heat Number Tag No
S-11215 413221

Quantity PCS Wt LBS
13 '11.5000 " 1 21

MTR

2) Our Order PEC-803853- 2 Your PO # 28462
Part # ** STOCK Rel #
STAINLESS STEEL ROUND BAR 304L
.375" DIA X 144.0000"

Heat Number Tag No
T2A0 413222

Quantity PCS Wt LBS
12 FT 1 4

MTR

3) Our Order PEC-803853- 3 Your PO # 28462
Part # ** STOCK Rel #
STAINLESS STEEL ROUND BAR 304L
1.00" DIA X 144.0000"

Heat Number Tag No
R6P0 413223

Quantity PCS Wt LBS
12 FT 1 33

MTR

4) Our Order PEC-803853- 4 Your PO # 28462
Part # ** STOCK Rel #
STAINLESS STEEL SHEET 304-2B
.0180 Nom X 48.0000" X 96.0000"

Heat Number Tag No
BNH006-ADB 413219

Quantity PCS Wt LBS
64.00 SFT 2 52

MTR

Page: 1Continued

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ÊTRE
RAPPORTÉES IMMÉDIATEMENT.

ERRORS OR SHORTAGE MUST BE REPORTED IMMEDIATELY

RETOUR DE MARCHANDISES AVEC NOTRE NUMERO D'APPROBATION SEULEMENT.
MERCHANDISE MAY NOT BE RETURNED WITHOUT OUR APPROVAL NUMBER.

REÇU EN BONNE CONDITIONS / RECEIVED IN GOOD CONDITION
TVQ/QST# 1017327981 TQ001 TPS/GST TVH/HST # 140223934 RT0001

DATE

8015-0520

Ship From:
THYSSENKRUPP MATERIALS NA
2821 LANGSTAFF ROAD
CONCORD, ONTARIO L4K 5C6
Tel: 905 669 9444 Fax: 905-738-9033

Ship To: (1)
DART AEROSPACE

No: PEC 934444
Ship Date 15May15 at 14:00 From PFW
Probill
Via VIM DELIVERY
FOB CONCORD
Frt PREPAID
Route 0- 0 Manifest
Vhcle Trailer
Slp STAN IVERS (905-532-1350)
Sold To: (20115)
DART AEROSPACE

B I L L O F L A D I N G

5) Our Order PEC-803853- 5 Your PO # 28462
Part # ** STOCK Rel #

STAINLESS STEEL SQ BAR 303 STAINLESS
1.00" X 144.0000"

Heat Number Tag No
4K683 413224

Quantity
12 FT

PCS
1

MTR

Wt LBS
41

6) Our Order PEC-803853- 6 Your PO # 28462
Part # ** STOCK Rel #

STAINLESS STEEL ROUND BAR 303 STAINLESS
.50" DIA X 144.0000"

Heat Number Tag No
V0N6 413225

Quantity
24 FT

PCS
2

MTR

Wt LBS
16

7) Our Order PEC-803853- 7 Your PO # 28462
Part # ** STOCK Rel #

STAINLESS STEEL ROUND BAR 303 STAINLESS
1.00" DIA X 144.0000"

Heat Number Tag No
TOM0 413226

Quantity
36 FT

PCS
3

MTR

Wt LBS
97

8) Our Order PEC-803853- 8 Your PO # 28462
Part # ** STOCK Rel #

ALUMINUM FLAT BAR 6061-T6511
.750" x 1.00" X 144.0000"

Heat Number Tag No
412903-3 413227

Quantity
12 FT

PCS
1

MTR

Wt LBS
11

9) Our Order PEC-803853- 9 Your PO # 28462
Part # ** STOCK Rel #

ALUMINUM FLAT BAR 6061-T6511
2.50" x 3.50" X 96.0000"

Heat Number Tag No
Z00780010 413296

Quantity
8 FT

PCS
1

MTR

Wt LBS
83

Page: 2Continued

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ÊTRE
RAPPORTÉES IMMÉDIATEMENT.

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RETOUR DE MARCHANDISES AVEC NOTRE NUMERO D'APPROBATION SEULEMENT.
MERCHANDISE MAY NOT BE RETURNED WITHOUT OUR APPROVAL NUMBER.

REÇU EN BONNE CONDITIONS / RECEIVED IN GOOD CONDITION
TVQ/QST# 1017327981 TQ001 TPS/GST TVH/HST # 140223934 RT0001

DATE

SP 15-05-20

Ship From:
THYSSENKRUPP MATERIALS NA
2821 LANGSTAFF ROAD
CONCORD, ONTARIO L4K 5C6
Tel: 905 669 9444 Fax: 905-738-9033

Ship To: (1)
DART AEROSPACE

No: PEC 934444
Ship Date 15May15 at 14:00 From PFW
Probill
Via VIM DELIVERY
FOB CONCORD
Frt PREPAID
Route 0- 0 Manifest
Vhcle Trailer
Slp STAN IVERS (905-532-1350)
Sold To: (20115)
DART AEROSPACE

B I L L O F L A D I N G

10) Our Order PEC-803853- 10 Your PO # 28462
Part # ** STOCK Rel #

ALUMINUM ROUND BAR 6061-T6511
.50" DIA X 144.0000"

Heat Number
177711-2

Tag No
413228

Quantity
12 FT

PCS
1

Wt LBS
4

MTR

11) Our Order PEC-803853- 11 Your PO # 28462
Part # ** STOCK Rel #

ALUMINUM ROUND BAR 6061-T6511
1.00" DIA X 144.0000"

Heat Number
102193-4-1-A-1

Tag No
413229

Quantity
12 FT

PCS
1

Wt LBS
11

MTR

TOTAL: Tags 11 PCS 15 LBS 373

Heat Number
102193-4-1-A-1
177711-2
412903-3
4K683
BNH006-ADB
R6P0
S-11215
TOM0
T2A0
VON6
Z00780010

*** Chemical Analysis ***

SP 15-05-20

MILL TEST REPORTS, PACKING SLIPS ARE TO SENT
WITH MATERIAL AND FAXED TO THE CUSTOMER PRIOR
TO SHIPPING.

Page: 3Continued

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ÊTRE
RAPPORTÉES IMMÉDIATEMENT.
ERRORS OR SHORTAGE MUST BE REPORTED IMMEDIATELY
RETOUR DE MARCHANDISES AVEC NOTRE NUMERO D'APPROBATION SEULEMENT.
MERCHANDISE MAY NOT BE RETURNED WITHOUT OUR APPROVAL NUMBER.

REÇU EN BONNE CONDITIONS / RECEIVED IN GOOD CONDITION
TVQ/QST# 1017327981 TQ001 TPS/GST TVH/HST # 140223934 RT0001

DATE

Ship From:
THYSSENKRUPP MATERIALS NA
2821 LANGSTAFF ROAD
CONCORD, ONTARIO L4K 5C6
Tel: 905 669 9444 Fax: 905-738-9033

Ship To: (1)
DART AEROSPACE

B I L L O F L A D I N G
No: PEC 934444
Ship Date 15May15 at 14:00 From PFW
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Via VIM DELIVERY
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Frt PREPAID
Route 0- 0 Manifest
Vhcle Trailer
Slp STAN IVERS (905-532-1350)
Sold To: (20115)
DART AEROSPACE

=====

B I L L O F L A D I N G

ATTN: CHANTAL/LINDA
** ALL PACKING SLIPS MUST HAVE THE HEAT NUMBER **
** REFERENCED ON IT **

TOTAL 1 SKID, 2 BDLS GW. 468 LBS

*CUSTOMER PICK-UP HRS AT THYSSENKRUPP MATERIALS NA
CONCORD, ONT.* *** 9:00 AM TO 4:00 PM ***
**** TEL. 800-926-2600 ****

* WE STOCK STAINLESS STEEL *
* PLEASE LET US QUOTE YOUR NEXT REQUIREMENT *

***PLEASE NOTE A \$25.00 ENERGY SURCHARGE WILL BE
ADDED TO EVERY ORDER.***

Page: 4 Last

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ÊTRE
RAPPORTÉES IMMÉDIATEMENT.

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RETOUR DE MARCHANDISES AVEC NOTRE NUMERO D'APPROBATION SEULEMENT.
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REÇU EN BONNE CONDITIONS / RECEIVED IN GOOD CONDITION

DATE

TVQ/QST# 1017327981 TQ001 TPS/GST TVH/HST # 140223934 RT0001

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

STAINLESS STEEL ROUND BAR 17-4 STAINLESS

750" DIA X 167.5000"

PART NO. RANDOM LENGTHS ** STOCK

PO/Ref 28462

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Certificate of Mill Test Results

BL PEC-934444-001

15 May 15

Signed by: 

Pg 1/1



INSPECTION CERTIFICATE

Certificate Type : EN 10204 / 3.1



Order Sales Order No. OA-SBD-FR-1415-0045
Customer Order No. PEC-257727

Invoice No.
Invoice Date

EXP/1415-281
11/08/14

Certificate No. 2011-19698
Date 11/08/14

Customer: THYSSENKRUPP MATERIALS NA
2821 Langstaff Rd.
Concord
Ontario, L4K 5C8, Canada

Trade Mark: AS
Inspector's Mark: PT

Material Details: Stainless Steel Grade 174PH/ 630 Round Bar Solution Annealed Centerless Ground & Polished

Steel Grade	17-4PH	Shape	Round Bar	Size	0.750"
Heat No	S-11215	Tolerance	A 484	Length of Bars	144" - 168"
Net Weight	853.188 LBS	Number of Bars	41	Melting Process	EF/AOD/MEMS.
Bundle No's	AG-7324				
Specifications	AMS 5643R:2008	ASTM A 564:2010	NACE MR 0175 / ISO 15156		

JM
15-5-24

CHEMICAL ANALYSIS %

	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Nb
17-4	0.02	1	1	0.04	0.03	17.5	0.5	5	5	0.45
630	0.049	0.31	0.82	0.028	0.008	15.40	0.20	4.16	3.20	0.224

MECHANICAL PROPERTIES

YS(Rp 0.2%) (N/mm2)	UTS (N/mm2)	% Elongation	% Reduction Area	Hardness (BHN)	Charpy Impact V Notch (Longitudinal) (Joules)
ASTM A 370 2012	ASTM A 370 2012	ASTM A 370 2012	ASTM A 370 2012	ASTM A 370 2012	
Min.					
Max.				383	
Results	942.58	1087.54	18.65	50.34	315

Heat Treatment :
Solution Annealing at 1900 F, Soaking for 1 hrs, Oil quench to below 90 F
Heat Treatment Traceability No(s): Solution Annealing : HT-707 - dated 21/08/14.

Remarks

- Traceability Of Origin Of Goods - India
- Chemical Reactivity - verified through Gamma Ray Spectrometer
- Microstructure Examination
- Corrosion Test - Satisfactory
- Swelling has been performed on the material
- Heat Treatment furnace calibrated as per API 5A:2010 / ISO 2009, Annexure M
- Heat Treatment Size for UTS - 12.50 mm / 0.50 inch
- Visual & Dimensional inspection - OK
- Material identification tested through X-ray based portable Spectrometer
- Full AMS Compliant

P.T. 

THYSSENKRUPP MATERIALS NA

DART AEROSPACE
STAINLESS STEEL ROUND BAR 304L
1.00" DIA X 144.0000"
PART NO. ** STOCK

PO/Rd 28462
We certify that this is a true copy of the report
furnished by the producer of the metal, or data
resulting from tests made in approved labs.

Certificate of Mill Test Results
BL PEC-93444-003
15 MAY 15
Pg 1/1



740 Imperial Road North

METALLURGICAL TEST REPORT

North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

Certificate: 4665 4 Mail To:
Customer: 007206 001 THYSSENKRUPP MATERIALS
2821 LANGSTAFF ROAD
CONCORD, ON L4K5C6

Ship To:
THYSSENKRUPP MATERIALS
2821 LANGSTAFF ROAD
CONCORD, ON L4K5C6

Date: 4/02/2015 Page: 1
Steel: 304/304L
Finish: (CD)

Your Order: PEC265143

NAS Order: PN 0050066 04

Corrosion: ASTM A262-10 Prac A/E OK
Red Ratio: 69.4 11

PRODUCT DESCRIPTION:

Round Bar, Annealed, Cold Draw
UNS 30400/30403 EN 10206-3-1, ASTM A484/13a
ASTM A276/13a ASTM A479/13a, ASTM A182/13 CHEM ONLY,
ASTM A279/13, ASTM A312/13 CHEM ONLY
AMS 5639H, AMS 5647J, AMS Q05-763C, Q05-763F, ASTM F899/11
SOLUTION HEAT TEMP 1900F MIN, ASTM A320/08 CL 1 GR B8
ASTM A193/10R-ASTM A193/10 CL 1 GR B8

REMARKS:

COMPLIES W/REQUIREMENTS OF DPMR 252.225-7009 EU DIRECTIVE
2011/65/EU-ROHS. EAF+AOD+CC. NO WELD REPAIR. HEATED AND MFG
IN USA FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION

Product Id	Grd #	Diameter	Size	Weight	Length	Mark	Pieces	Commodity Code
BG8357 5		1.0000		846	144.00	4	1	

CHEMICAL ANALYSIS											Lab Accreditation Bureau, ISO/IEC 17025, Certificate# U2323									
CM(Country of Melt)											ES(Spain)		US(United States)		ZA(South Africa)		JP(Japan)		Chemical Analysis per ASTM A751/08	
HEAT	CH	C %	CO %	CR %	CU %	NI %	MO %	N %	NI %	P %										
R6P0	US	.0111	.1620	18.1005	.4250	1.3340	.3000	.0752	8.6155	.0310										
		S %																		

S %	SI %
.0260	.2640

MECHANICAL PROPERTIES

Product Id	1 d	HB	.2YS	UTS	RA	Elong
	o i	No.	KSI	KSI	%	% 4D
BG8357 5	R L	212.0	73.10	99.23	66.93	43.17

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS

Technical
Dept. Mgr.

ASB

THYSSENKRUPP MATERIALS NA

PART: AEROSPACE
STAINLESS STEEL SQ BAR 303 STAINLESS
1.00" X 144.0000"
PART NO.: STOCK

PO/R#128463
 We certify that this is a true copy of the report
 furnished by the producer of the metal, or data
 resulting from tests made in approved labs.

Certificate of Mill Test Results
 BL PEC-934444-005
 15MAR15
 Pg 1/1



INSPECTION CERTIFICATE

CUSTOMER: TA CHEN INTERNATIONAL, LTD.
 COMMUNITY: Stainless Steel Cold Draw Square Bar
 CERTIFICATE NO: AL10210199

ORDER NO.: 103081002/L17179
 SPECIFICATION: 303

WALSH LHYA CORP. YENSHU PLANT
 亞細亞鋼鐵工業股份有限公司
 地址: 台灣桃園市蘆竹區永豐路11號
 TEL: 886-3467-6666 FAX: 886-3467-6667
 E-MAIL: sales@walsin.com.tw

LC NO:
 SUPPLY CONDITION: C
 DATE OF ISSUE: 2014/10/21

Test No	Thick (inch)	P.S	H	Chemical Composition (%)										Mechanical Property					REMARK
				C	Si	Mn	P	S	Ni	Cr	Mo	Cu	N	TS	YS	EL	RA	RE	RE
				x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	MPa	MPa	%	%		
Spec	Min			15	100	250	300	150	800	1700								103	
MS84	51	2211	5.4	39	190	27	303.5	854	1730	12	50	193		705	535	41	45	96	71.40/102
MS85	54	2211	5.4	29	190	27	303.5	854	1730	12	50	193		705	535	41	45	96	71.40/102
Total:				422															

Im 5.5.24

TOLERANCE: ±0.03
 Acc. to ASTM A582-12 Cond A
 Acc. to ASTM A582-12 Cond A
 This inspection certificate is issued acc. to EN 10204 2.2.

LSM/CH TOLERANCE: 0-50

Remark:

1. We hereby certify that material described herein has been manufactured and tested with satisfactory results in accordance with requirements of the above material specification.
2. We certify that the material is free from mercury and radiation contamination. Qualification No. of Taiwan Atomic Energy Committee: 136
3. The Above Testing Results Relate Only To The Items Tested.
4. No welding repaired

SUPPLY CONDITION:

- A: Annealed
- B: Shot Blasted
- C: A: Cold
- E: Heat treated in Pass
- H: Precipitation Hardening
- P: Hot Rolled
- R: Straightened
- S: Cold Edge
- U: Polished
- V: Acid Pickled
- W: Cold
- X: Temp
- Y: Cold Drawn
- Z: Centless Ground
- PL: Turned or Peened

1. Laboratory accredited by ISO/IR17025:2005

- Certificate No. 11567-11924
- 2. Quality management system approved by: TUV
- ISO 9001:2008 Certificate No. 01108023935
- PUR: 97/73/EC CE Marked
- Certificate No. 01201007-01-01-015
- 3. Heat treatment system approved by: TUV
- Certificate No. 01201007-01-01-015
- 4. Steel making and heat treatment approval: 12
- Certificate No. 01201007-01-01-015
- 5. Environmental management system approval by: TUV
- ISO 14001:2004 Certificate No. 01108023935
- 6. EMS 14001:2007 Certificate No. 0111060441
- 7. ISO 9001:2008 Certificate No. 0111060441
- 8. ISO 14001:2004 Certificate No. 0111060441
- 9. ISO 45001:2018 Certificate No. 0111060441

TEST METHOD:

- CHEMICAL: ASTM E1806, E415, E1026, E1010

Quality Assurance Responsible Personnel
SZ Kan.

MILL TEST REPORT

TA CHEN INTERNATIONAL, INC.

This MTR contains 1 page (Page # 1)

Customer: COPCON PO#: PEC-264410 SO#: LEXA90
 Item: SB030100 Bundle: WL14077013 Heat#: 4K683

MTR#: WLRBA1410210199

THYSSENKRUPP MATERIALS NA

DART AEROSPACE
STAINLESS STEEL ROUND BAR 303 STAINLESS
1.00" DIA X 144.0000"
PART NO: ** STOCK

P.O./Rd 28462

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Signed by:

BL PEC-93444-007

Certificate of Mill Test Results

15003915
Pg 1/1



METALLURGICAL TEST REPORT

North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

740 Imperial Road North

Certificate: 45396 3 Mail To:

Customer: 007206 001 THYSSENKRUPP MATERIALS
2821 LANGSTAFF ROAD
CONCORD, ON L4K5C6

Ship To:

THYSSENKRUPP MATERIALS
2821 LANGSTAFF ROAD
CONCORD, ON L4K5C6

Date: 3/30/2015 Page: 1

Steel: 303

Finish: CD

Corrosion:

Red Ratio: 69.4 : 1

Your Order: PEC265973

NAS Order: IN 0208224 02

PRODUCT DESCRIPTION:

Round Bar, Annealed, Cold Draw
ASTM A582/12 EN 10204 3.1, ASTM A484/11
AMS 5640 TYPE 1, Q05-764B CONDITION A
SOLUTION ANNEAL TEMP 1900F MIN

REMARKS:

COMPLIES W/REQUIREMENTS OF DEAR 252.225-7009 EU DIRECTIVE
2011/65/EU. ROHS. ZAF+AD+CC. NO WELD REPAIR. WELDED AND WFG
IN USA FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION

Product Id	End #	Diameter	Size	Weight	Length	Mark	Pieces	Commodity Code
BG9346 6		1.0000		614	144.00	5	1	

CHEMICAL ANALYSIS

CM(Country of Mat) ES(Spain) US(United States) ZA(South Africa) JP(Japan)

Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323
Chemical Analysis per ASTM A751/08

HEAT	CM	C %	CO %	CR %	CU %	MN %	MO %	N %	NI %	P %
TOMO	US	.0339	.1845	17.1585	.3770	1.8065	.3465	.0392	8.3630	.0330

S %	SI %
.3580	.4840

MECHANICAL PROPERTIES

Product Id	1 4	0 1	HB	MO.	.2YS	UTS	RA	ELNG
					KSI	KSI	%	% 4D
BG9346 6	R 1	204.0		79.95	102.50	34.87		15.87

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical Dept. Mgr.

ASB

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

ALUMINUM FLAT BAR 6061-T6511
2.50" x 3.50" X 96.0000"
PART NO. ** STOCK

PO/REF 28462

We certify that this is a true copy of the report
furnished by the producer of the metal, or data
resulting from tests made in approved labs.

Certificate of Mill Test Results

BL PEC-93444-009

15May15

Signed by: *[Signature]*

Pg 1/1

KAISER ALUMINUM FABRICATED PRODUCTS

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
5205 KAISER DRIVE
KALAMAZOO, MI 49048

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

CUSTOMER PO NUMBER: PEC-264467-1		CUSTOMER PART NUMBER 741/STK		PRODUCT DESCRIPTION: 2.500 X 3.500 SC RECT BAR	
KAISER ORDER NUMBER: 680494	LINE ITEM: 001	SHIP DATE: 01/27/2015	KAISER LOT NUMBER: Z00780010	ALLOY: 6061	TEMPER: T6511
WEIGHT SHIPPED: 988.000 LB	QUANTITY: 8.000 PCS	B/L NUMBER: 610892	DIAMETER THKNS: 2.500	WIDTH: 3.500	LENGTH: 12.000 FT
SHIP TO: THYSSENKRUPP CANADA 2821 LANGSTAFF ROAD CONCORD, ON L4K 5C6 CANADA			SOLD TO: THYSSENKRUPP CANADA 2821 LANGSTAFF ROAD CONCORD, ON L4K 5C6 CANADA		

Actual Physical Properties

REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG#	HARDNESS	CONDUCT.	BEND
Z00780010	0001	1	48.6	45.9	15.6	RE 92	N/A	N/A
Z00780010	0002	1	47.9	44.9	16.1	RE 91	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	0.00
104278	.74	.37	.28	.09	.92	.10	.06	.02	.00	.00	.00	.01	.03

Applicable Requirements:

ASTM-B221-14 SPECIFIED ASME-SB221 1998 SECT II (AMS-QQ-A-200/8 97:RFAF 2012) UNS#A96061
(T6511 also conforms to T6-not applicable to other tempers)

Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA

MERCURY IS NOT A NORMAL BACKGROUND ELEMENT IN ALUMINUM ALLOYS. NEITHER MERCURY NOR ANY OF ITS COMPOUNDS ARE UTILIZED BY KAISER ALUMINUM IN THE MANUFACTURE OF THIS MATERIAL.

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms and conditions of sale. Test reports are on file, subject to examination.

Aimee L. Macnowski, Quality & Technology Manager

Aimee L. Macnowski

Plant Serial: 00162517

Kaiser Order Number: 680494

Line Item: 001

THYSSENKRUPP MATERIALS NA

PART AEROSPACE
ALUMINUM ROUND BAR 6061-T6511
1.00" DIA X 144.0000"
PART NO. **STOCK

PO/Ref: 28462

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Signed by:

BL PEC-934444-011

Certificate of Mill Test Results

43 May 15
Pg 1/1



Nanshan America
Advanced Aluminum Technologies
3600 US Hwy 52 South
Lafayette, Indiana 47909
Main Office: (765) 269-4360

CERTIFIED INSPECTION REPORT FOR EXTRUDED PRODUCTS

OUR ORDER NUMBER	ITEM
103149	2

BILL TO	10038 - B01-ThyssenKrupp Materials NA, Tori	MANIFEST NUMBER	6424	OE NUMBER	1003	DATE OF SHIPMENT	3/30/2015
SHIP TO	10038 - B01-ThyssenKrupp Materials NA, Tori	CUSTOMER PO	PEC-265668	ALLOY	6061	TEMPER	T6511
CUSTOMER PART NUMBER	40-00453	CUSTOMER PART NUMBER	40-00453	DESCRIPTION	Rod 1.000" Diameter, Stenciled		

Applicable Requirements
ASTM B221-14 AMS-QQ-A-200/B (2012-09)
T6511 also conforms to T6 ASME SB221 - 1998 sect II

Melted in USA
Manufactured in USA

Mechanical Properties

Lot	Alloy	Test No.	Test Date	Ultimate Tensile Strength (KSI)	Yield Strength (KSI)	Percent Elongation	Hardness	Conductivity
101939 31-A-1	6061	1502221	02/10/15	41.3	35.9	15%		
102193 41-A-1	6061	1501216	01/14/15	47.9	43.2	18%		

Chemical Limits

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Ga	V	B	Zr	Bi	Pb	Sn	Sr	Co	Each	Total
ALLOY 6061																				
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.05	0.25	0.15	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Density:																				
Electrical Conductivity:																				
Thermal Conductivity:																				
Alloy Constant:																				

Chemical Composition

Cast Number	Alloy	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Ga	V	B	Zr	Bi	Pb	Sn	Sr	Co	Al	Other
1408056	6061	0.74	0.52	0.33	0.07	0.84	0.07	0.01	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	97.33	
1412013	6061	0.74	0.41	0.35	0.08	0.89	0.07	0.01	0.05	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	97.00	
1502014	6061	0.71	0.40	0.31	0.07	0.98	0.07	0.01	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	97.40	

Nanshan America hereby certifies that the material covered by this report has been inspected in accordance with, and has been found to meet the applicable requirements described herein, including any specifications forming a part of the description, and that samples representative of the material met the composition limits and had the mechanical properties shown. Mercury is not a normal contaminant in aluminum alloys. Neither mercury nor any of its compounds were utilized by Nanshan America in the manufacture of this material.

Edward Wmarcik
Quality Manager

THYSSENKRUPP MATERIALS NA

DART AEROSPACE
STAINLESS STEEL ROUND BAR 304L
.375" DIA X 144.0000"
PART NO. ** STOCK

PO/Ref 28462

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Signed by:

BL PEC-934444-002

Certificate of Mill Test Results

15 May 15
Pg 1/1



740 Imperial Road North

Certificate: 37359 1
Customer: 007206 001
Mail To: THYSSENKRUPP MATERIALS
2821 LANGSTAFF ROAD
CONCORD, ON L4K5C6

Ship To: THYSSENKRUPP MATERIALS
2821 LANGSTAFF ROAD
CONCORD, ON L4K5C6

North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

Date: 3/03/2015 Page: 1

Steel: 304/304L

Finish: CD

Corrosion: ASTM A262-10 Pract A/E OK

Your Order: PEC264220

NAS Order: PN 0048583 03

PRODUCT DESCRIPTION:

Round Bar, Annealed, Cold Draw
UNS 30400/30403 EN 10204 3.1, ASTM A864/13a
ASTM A276/13, ASTM A479/13a, ASTM A182/13 CHEM ONLY,
ASTM A276/13, ASME SA182/10 CHEM ONLY
AMS 5639H, AMS 5647J, AMS QQS-763C, QQS-763F, ASTM F899/11
SOLUTION ANNEAL, TEMP 1900F MIN, ASTM A320/08 CL 1 GR B8
ASTM A193/10A-ASME SA193/10 CL 1 GR B8

REMARKS:

COMPLIES W/REQUIREMENTS OF DPAF 252.225-7009 EU DIRECTIVE
2011/65/EU, REHS, ZAF+ADD+CC. NO WELD REPAIR, MELTED AND WFG
IN USA FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION

Product Id	Skid #	Diameter	Size	Weight	Length	Mark	Pieces	Commodity Code
------------	--------	----------	------	--------	--------	------	--------	----------------

BH0052 1			3750	1,028	144.00	12	1	
----------	--	--	------	-------	--------	----	---	--

CHEMICAL ANALYSIS CM(Country of Melt) ES(Spain) US(United States) ZA(South Africa) JP(Japan) Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323
Chemical Analysis per ASTM A751/08

HEAT	CM	C %	CO %	CR %	CU %	MN %	NO %	N %	NI %	P %
T2A0	US	.0217	.1570	18.0380	.4900	1.3730	.3640	.0623	8.5110	.0330

S %	SI %
.0220	.1920

MECHANICAL PROPERTIES

Product Id	1 d o i o r	HB No.	.2YS KSI	UTS KSI	RA %	Elong % 2"
BH0052 1	RL	171.0	87.59	108.98	71.48	34.05

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.

Handwritten signature

THYSSENKRUPP MATERIALS NA

DART AEROSPACE
STAINLESS STEEL SHEET 304-2B
0.180 Nom X 48.0000" X 96.0000"
PART NO. *** STOCK

PO/Rel 28462
We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

BL PEC-934444-004

Certificate of Mill Test Results

15 May 15
Pg 1/1



遠銷鋼鐵股份有限公司
YUEN CHANG STAINLESS STEEL CO., LTD.

檢驗證明書
MILL TEST CERTIFICATE(S)
第1頁 共1頁
ISSUE DATE: 2014/12/08

高雄市中區中正路235號13F
13F, No. 235 Jungfeng 4th Road, Chongjin
Chi, Kaohsiung, Taiwan
TEL: 886-7-9695858 FAX: 886-7-9685768
http://www.yuenchang.com.tw

JM15-5-24

客戶名稱 Customer	Thyssenkrupp Steel Services Thyssenkrupp Materials NA, 2821 Langstaff Road, Concord, Ontario, Canada, L4K 5C6.																	Thyssenkrupp Materials NA PO No. PEC-262425		
商品描述 Desc. Of Goods	Prime, Cold Rolled Stainless Steel Sheets, Stilled Edge, As Per ASTM A240/A480 In Grade 304, 2B Finish, With/Without Paper Interleaf. Prime, Cold Rolled Stainless Steel Sheets, Stilled Edge, As Per ASTM A240/A480 In Grade 304, No.4 Finish, Laser PVC On One Side, With Back Pass																			
項目 Item	鋼卷編號 Coil No.	爐號 Heat No.	鋼種 Steel Grade	表面 Finish	產品尺寸 Thickness x Width x Length	淨重 Net Weight (KGS)														
AC007	CAWP0271-04	BNH005-ACF	304	2B	0.020" x 48" x 96"	768														
AC001	CAWP0283-19	BNH006-ADB	304	2B	0.020" x 48" x 96"	205														
AC005	CAWP0283-18	BNH006-ADB	304	2B	0.020" x 48" x 120"	930														
AC005	CCBC0728-23	ANJ015-AB8	304	2B	0.059" x 48" x 96"	1,763														
AC002	CCBC0728-16	ANJ015-AB8	304	2B	0.059" x 48" x 120"	1,425														
AC012	CARQ0668-30	BNE007-AB8	304	2B	0.059" x 60" x 120"	1,399														
AC006	CCBC0735-06	ANK005-AAC	304	2B	0.075" x 48" x 96"	1,373														
AC003	CCBC0735-05	ANK005-AAC	304	2B	0.075" x 48" x 120"	1,394														
化學成分 Chemical Composition (%)																	機械性質 Mechanical Properties			
Item	C	Si	Mn	P	S	Cr	Ni	N	Cu	Mo	Others	T.S N/Min2	Y.S(0.2%) N/Min2	Elong (%)	HB	HRB	HV			
AC007	0.037	0.456	1.140	0.035	0.0022	18.304	8.210	0.036	0.081			740	292	58.0		80.0				
	0.050	0.483	1.171	0.037	0.0010	18.026	8.093	0.042	0.083			745	297	60.0		80.0				
AC001	0.050	0.483	1.171	0.037	0.0010	18.026	8.093	0.042	0.083			745	297	60.0		80.0				
AC005	0.017	0.300	1.390	0.031	0.0055	18.280	8.010	0.074	0.260	0.100		611	277	56.0		169.0				
AC002	0.017	0.300	1.390	0.031	0.0055	18.280	8.010	0.074	0.260	0.100		611	277	56.0		169.0				
AC012	0.030	0.570	1.140	0.030	0.0010	18.200	8.000	0.050	0.024			666	267	50.0		85.5				
AC006	0.045	0.460	1.000	0.037	0.0030	18.290	8.100	0.058				636	292	52.9		84.8				
AC003	0.046	0.460	1.000	0.037	0.0030	18.280	8.100	0.058				636	292	52.9		84.8				
註明: 本表所列產品, 均係材料製造廠及試驗, 並符合規格之要求。 We hereby certify that the products described herein have been manufactured and tested with satisfactory results in accordance with the requirement of the above material specification.																	QC Manager			
小產品無縫符合: 並且不含有: The material described above is free from radiation contamination and mercury. 本證明書符合: EN10204/Type 3, 1級 - Inspection certificate in accordance with EN10204/Type 3.1. 本表所列產品均符合: ASTM A240/A480 標準。 All the above products conform to the requirements specified in ASTM A240. We hereby Certifying The Material To ASTM A240/ A480 As Per EN10204/ 3.1																	Jocky Chang			

THYSSENKRUPP MATERIALS NA

DART AEROSPACE
STAINLESS STEEL ROUND BAR 303 STAINLESS
50" DIA X 144.0000"
PART NO. 11 STOCK

PO/Ref 28462

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Signed by:

Certificate of Mill Test Results

BL PEC-93444-006

15 May 15
Pg 1/1



740 Imperial Road North

METALLURGICAL TEST REPORT

North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

Certificate: 54693 19

Customer: 007206 001

THYSSENKRUPP MATERIALS
2821 LANGSTAFF ROAD
CONCORD, ON L4K5C6

Date: 4/30/2015 Page: 1

Steel: 303

Finish: CD

Corrosion:

Your Order: PEC265635

NAS Order: PN 0050611 07

PRODUCT DESCRIPTION:

Round Bar, Annealed, Cold Draw
ASTM A582/12 EN 10204 3.1, ASTM A484/11
AMS 5640V TYPE 1, QOS-764B CONDITION A
SOLUTION ANNEAL TEMP 1900F MIN

REMARKS:

COMPLIES W/REQUIREMENTS OF DEAR 252.225-7009 RG DIRECTIVE
2011/65/EU, ROHS, PAH+ADB+CC. NO WELD REPAIR. MELTED AND MFG
IN USA FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION

Product Id	Shield #	Diameter	Size	Weight	Length	Mark	Pieces	Commodity Code
------------	----------	----------	------	--------	--------	------	--------	----------------

BH1409 8 .5000 1.193 144.00 9 1

CHEMICAL ANALYSIS CM(Country of Met) ES(Spain) US(United States) ZA(South Africa) JP(Japan) Lab Accreditation Bureau, ISO/IEC 17025, Certificate# I2323
Chemical Analysis per ASTM A751/08

HEAT	CH	C %	CO %	CR %	CU %	MN %	MO %	N %	NI %	P %
V0N6	US	.0425	.1910	17.1125	.3685	1.8500	.2795	.0440	8.3030	.0295

S %	SI %
.3460	.5350

MECHANICAL PROPERTIES

Product Id	1 4 0 1 0 2	HB	2YS KSI	UTS KSI	RA %	Elong % 2"
BH1409 8	RL	196.0	82.60	104.54	43.79	40.45

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.

1888 hours

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

ALUMINUM FLAT BAR 6061-T6511

.750" x 1.00" X 144.0000"

PART NO. ** STOCK

PO/Rel 28462

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Certificate of Mill Test Results

BL PEC-934444-008

15May15

Pg 1/1

Signed by: 

CAN ART

ALUMINUM EXTRUSION INC.

Material Test Report

Manifest: 292242

Ship To: ThyssenKrupp Materials NA
2821 Langstaff Road
Concord, ON L4K 5C6

Ticket:
5413117

Our Order: 412903 - 3

Cust P.O.: 266137

Die: ES05549

Part: 05549-000-144

Alloy Temper: 6061 T6511

Description: .750 x 1.000

Print Date: 4/14/15

Chemical Composition Range

<u>6061</u>	<u>Si</u>	<u>Fe</u>	<u>Cu</u>	<u>Mn</u>	<u>Mg</u>	<u>Cr</u>	<u>Zn</u>	<u>Ti</u>	<u>OtherEach</u>	<u>OtherTotal</u>
Min	0.40		0.15		0.8	0.04				
Max	0.8	0.7	0.40	0.15	1.2	0.35	0.25	0.15	0.05	0.15

Mechanical Properties

Strength ksi

<u>Sample ID</u>	<u>Cast #</u>	<u>Lot #</u>	<u>Test Date</u>	<u>Ultimate Tensile</u>	<u>Yield 2% offset</u>	<u>Elongation 2" gage length</u>
405283	15031861B	A11	4/13/15	39.22	35.76	11.5

JM15-5-24

Applicable Specifications: ASTMB221-13 AMS-QQ-A200/8

Country of Origin: 85 Parkshore Drive, Brampton, Ontario CANADA L6T 5M1

Can Art Aluminum Extrusion Inc. certifies that materials shipped under this order have been inspected and tested in accordance with Aluminum Association and agreed upon customer specifications. Can Art assumes no liability for additional costs which may be incurred during the customer's manufacture and sale of its products, and is subject only to the replacement of any materials not within agreed upon specifications provided written notification is received by Can Art within 30 days from the date of shipment.

Siddharth Desai - Tensile Testing

Authorized: _____


Evan Eng, Quality Assurance Manager

THYSSENKRUPP MATERIALS NA

DART AEROSPACE
ALUMINUM ROUND BAR 6061-T6511
50" DIA X 144.0000"
PART NO. **STOCK

PO/Rel 28462

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Signed by:

BL PEC-034444-010

Certificate of Mill Test Results

LSMty15
Pg 1/1



TEL: (416)745-4444 FAX: (416)745-0925 1-800-668-7210
411 CHRISLEA ROAD, WOODBRIDGE, ONTARIO, CANADA L4L 8N4
<http://www.extrudex.com>

MILL TEST

BILL TO	THYSSENKRUPP MATERIALS NA	CERT CODE:	1	DIE NUMBER	S	DATE OF SHIPMENT	Feb/18/2015	EXTRUDEX ORDER NO.	177711 - 2	MANIFEST NO.	323275
SHIP TO	THYSSENKRUPP MATERIALS NA	CUSTOMER PO	PEC-264815	ALLOY	6061	TEMPER	T6511	SALESMAN	FORBES DODWELL	MADE IN CANADA	
SO DESCRIPTION	.500" RD	CUSTOMER PART NUMBER	2162-S	PART DESCRIPTION	.500" RD	CERTIFICATION MILL TEST ASTM B221-13					

Mechanical Properties

Lot	Alloy	Test Date	Ultimate Tensile Strength (KSI)	Yield Strength (KSI)	Percent Elongation	Hardness Rockwell E	Conductivity
A.11	6061	Feb/17/2015	46.10	42.10	17.80	89.8, 90.5, 90.2	

Chemical Composition

Cast Number	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Ga	V	B	Zr	Bi	Pb	Sb	Sn	Sr	Ca	Al	Other
A.11 27535	0.58	0.222	0.197	0.07	0.85	0.043	0	0.008	0.013	0	0	0	0	0	0	0	0	0	0	Remainder	0.009

We certify that the following extrusions have been quality inspected/tested and conforms to required dimensional and temper specifications.

David Natale
Quality Control Manager

1 - CUSTOMER COPY

Jm15 529



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO28462**

Purchase Order Date 5/13/2015

PO Print Date 5/13/2015

Page Number 1 of 6

Order From : VC-COP001
THYSSENKRUPP MATERIALS CA LTD
O/A VPK METAL- C/O T27540/PO BOX 4275,POSTAL"A"
TORONTO, ON M5W 5V8
CA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAKED

Contact Name		Buyer	Chantal Lavoie
Vendor Phone	905 669 9444	Customer POID	
		Customer Tax #	10127-2607
Ship To Contact		Terms	Net 30
Ship To Phone		Currency	CAD
Ship Via:	VENDOR'S TRUCK	FOB	FCA - (Free Carrier)
Ship Acct:			

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	M174R0.750	17-4 round bar .750	5/20/2015 Yes 5/20/2015		14.00 f	\$4.50	\$63.00
MATERIAL: 17-4 PH / S17400 TYPE 630 SS ROUND BAR PER AMS 5643 OR ASTM A564 GRAIN MUST BE ALONG LENGTH OF BAR MINIMUM YIELD TENSILE STRENGTH = 100 KSI MINIMUM ULTIMATE TENSILE STRENGTH = 150 KSI							
Line Total:							\$63.00
2	M2024T3S.040	2024-T3 .040 sheet	5/20/2015 Yes 5/20/2015		96.00 sf	\$3.51	\$337.40
MATERIAL: 2024-T3 ALUMINUM SHEET AS PER QQ-A-250/4 OR AMS-QQ-A-250/4 OR AMS 4037 OR ASTM B209							
Line Total:							\$337.40

Note:

5/13/2015



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO28462**

Purchase Order Date 5/13/2015

PO Print Date 5/13/2015

Page Number 2 of 6

Order From : VC-COP001
THYSSENKRUPP MATERIALS CA LTD
O/A VPK METAL- C/O T27540/PO BOX 4275,POSTAL"A"
TORONTO, ON M5W 5V8
CA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 905 669 9444

Ship To Contact

Ship To Phone

Ship Via: VENDOR'S TRUCK

Ship Acct:

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

FCA - (Free Carrier)

3	M304R0.375	304 ROUND BAR 0.375	5/20/2015 Yes 5/20/2015	12.00 f	✓	\$2.92	\$35.00
---	------------	---------------------	-------------------------------	------------	---	--------	---------

MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276

(NOTE: AISI 303 NOT ACCEPTABLE)

Line Total: \$35.00

4	M304R1.000	304 round bar 1.00	5/20/2015 Yes 5/20/2015	12.00 f	✓	\$6.27	\$75.24
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MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276

(NOTE: AISI 303 NOT ACCEPTABLE)

Line Total: \$75.24

5	M304S26GA	304/316 0.018 SHEET	5/20/2015 Yes 5/20/2015	64.00 sf	✓	\$2.53	\$161.76
---	-----------	---------------------	-------------------------------	-------------	---	--------	----------

MATERIAL: AISI 304/316 SS SHEET ANNEALED
AS PER MIL-S-5059 OR AMS 5513 (304)
OR AMS 5524 (316) OR ASTM A240 OR
ASME SA240

8015-0520

Note:

5/13/2015



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO28462

Purchase Order Date 5/13/2015

PO Print Date 5/13/2015

Page Number 3 of 6

Order From : VC-COP001
THYSSENKRUPP MATERIALS CA LTD
O/A VPK METAL- C/O T27540/PO BOX 4275,POSTAL"A"
TORONTO, ON M5W 5V8
CA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 905 669 9444

Ship To Contact

Ship To Phone

Ship Via: VENDOR'S TRUCK

Ship Acct:

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

FCA - (Free Carrier)

Line Total: \$161.76

6 M303R0.500 303 Round Bar 0.500" 5/20/2015
Yes
5/20/2015

24.00
f

\$1.40 \$33.60

Line Total: \$33.60

7 M303R1.000 303 Round Bar 1.00 5/20/2015
Yes
5/20/2015

36.00
f

\$5.47 \$196.80

MATERIAL: AISI 303 SS ROUND BAR AS PER ASTM A582

NOTE: AISI 304/316 NOT ACCEPTABLE

Line Total: \$196.80

8 M6061T6B0.750X01.000 6061-T6 Bar .750 x 1.00 5/20/2015
Yes
5/20/2015

12.00
f

\$2.29 \$27.50

MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR
AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116
OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR
ASTM B221

SP 15-05-20

Note:

5/13/2015



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO28462

Purchase Order Date 5/13/2015

PO Print Date 5/13/2015

Page Number 4 of 6

Order From : VC-COP001
THYSSENKRUPP MATERIALS CA LTD
O/A VPK METAL- C/O T27540/PO BOX 4275,POSTAL"A"
TORONTO, ON M5W 5V8
CA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name
Vendor Phone 905 669 9444

Ship To Contact
Ship To Phone
Ship Via: VENDOR'S TRUCK
Ship Acct:

Buyer
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB FCA - (Free Carrier)

Line Total: \$27.50

9 M6061T6B2.000X04.000 6061T6 Bar 2.00 x 4.00 5/20/2015
4.500 4.500 Yes
5/20/2015

6.00 ✓ \$27.73 \$166.40
f

MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR
AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116
OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR
ASTM B221

Line Total: \$166.40

10 M6061T6B2.500X03.500 6061-T6 Bar 2.50 x 3.50 5/20/2015
Yes
5/20/2015

8.00 ✓ \$27.63 \$221.00
f

MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR
AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116
OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR
ASTM B221

Line Total: \$221.00

Note:

5/13/2015



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO28462

Purchase Order Date 5/13/2015

PO Print Date 5/13/2015

Page Number 5 of 6

Order From : VC-COP001
THYSSENKRUPP MATERIALS CA LTD
O/A VPK METAL- C/O T27540/PO BOX 4275,POSTAL"A"
TORONTO, ON M5W 5V8
CA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 905 669 9444

Ship To Contact

Ship To Phone

Ship Via: VENDOR'S TRUCK

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

11 M6061T6R0.500 6061-T6 Round Bar .500" 5/20/2015
Yes
5/20/2015

12.00 ✓
f \$2.92 \$35.00

MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR
AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116
OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR
ASTM B221

Line Total: \$35.00

12 M6061T6R1.000 ROUND BAR 1.00" 5/20/2015
Yes
5/20/2015

12.00 ✓
f \$2.92 \$35.00

MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR
AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116
OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR
ASTM B221

Line Total: \$35.00

13 M303B1.000X1.000 303 BAR 1" X 1" 5/20/2015
Yes
5/20/2015

12.00 ✓
f \$12.64 \$151.70

MATERIAL: AISI 303 SS BAR AS PER ASTM A582
NOTE: AISI 304/316 NOT ACCEPTABLE

Note:

5/13/2015

815-05-20



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO28462**

Purchase Order Date 5/13/2015

PO Print Date 5/13/2015

Page Number 6 of 6

Order From : VC-COP001
THYSSENKRUPP MATERIALS CA LTD
O/A VPK METAL- C/O T27540/PO BOX 4275,POSTAL"A"
TORONTO, ON M5W 5V8
CA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name
Vendor Phone 905 669 9444

Ship To Contact
Ship To Phone
Ship Via: VENDOR'S TRUCK
Ship Acct:

Buyer
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB FCA - (Free Carrier)

Line Total: \$151.70

14 71401-45 PROCUREMENT QUALITY CLAUSES 5/20/2015 1.00

\$0.00 \$0.00

No
5/20/2015
Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)
A026 certification of material conformance
A041 quality management system
A042 dart notification by supplier
A043 retention of quality document

Line Total: \$0.00

PO Total: \$1,539.40

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Change Nbr: 1

Change Date: 5/13/2015

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061 TL
DATE: 15/05/23

PO / BATCH NO.: 28462/132320

MATERIAL CERT REC'D: yes
QUANTITY RECEIVED: 8'
QUANTITY INSPECTED: 8'
QUANTITY REJECTED: _____

THICKNESS ORDERED: 2.50x3.50
THICKNESS RECEIVED: 2.50x3.50
SHEET SIZE ORDERED: _____
SHEET SIZE RECEIVED: _____

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL	(Y)	N	
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT MATERIAL	(Y)	N	
CORRECT REF # TO LINK CERT	(Y)	N	
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>14</u> <u>9-89</u>	SIGNED OFF BY: _____
DATE: <u>15/05/25</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in